

The DFG-NMFS Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFG-NMFS Draft Guidelines recommend limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high. The proposed diversion season is within the season recommended by the DFG-NMFS Draft Guidelines.

The DFG-NMFS Draft Guidelines provide a process for assessing the cumulative impacts of multiple diversion projects on downstream fisheries habitat by calculating the Cumulative Flow Impairment Index (CFII) to estimate the cumulative effects of existing and pending projects in a watershed of interest. The DFG-NMFS Draft Guidelines also recommend a bypass flow that adequately protects salmonids and aquatic resources downstream from the POD. Specifically, a bypass equivalent to February Median Flow (FMF) at the POD is recommended absent a site-specific study to determine a protective bypass flow. The FMF at the POD was calculated to be 0.62 cfs (see attached WAA/CFII report, page 5).

The DFG-NMFS Draft Guidelines indicate that new storage ponds should be constructed offstream and permitting of new or existing onstream storage ponds should be avoided. In this case the Applicant has constructed an onstream pond for which they now seek approval. The DFG-NMFS Draft Guidelines state that onstream reservoirs may remain onstream if all of the following conditions are met. In effect, the DFG-NMFS Draft Guidelines indicate that anadromous fish will not be affected by diversion when CFII's are less than 5%; an adequate bypass flow is provided, and diversion is to offstream storage (i.e., not onstream). They also state that if diversion projects meet the following conditions, then no bypass flow or fish passage protection measures are required:

1. The diversion is at a point in a stream where fishes or non-fish aquatic species were not historically present upstream (i.e., a Class III drainage);
2. The project could not contribute to a cumulative reduction of more than 10 percent of the natural instantaneous flow in any reach where fish are at least seasonally present (i.e., a Class I drainage); and
3. The project would not cause the dewatering of any fishless stream reach supporting non-fish aquatic species (i.e., a Class II drainage).

The proposed project is located on a non-fisheries headwaters Class II watercourse and is therefore not consistent with exception criteria for allowing onstream dams to remain onstream. The existing onstream dam was authorized under a Small Domestic Use Registration, thus approval of A031360 will not amount to approval of a new onstream dam, since the Division already approved the SDUR. As stated in the WAA/CFII report, the CFII value at the confluence of the Unnamed Stream and Turner Creek is 0.5%, and the CFII at the confluence of Turner Creek and Mill Creek is 0.2%.

The CFII immediately downstream of the POD was; however, calculated to be 8.5%, and the DFG-NMFS Draft Guidelines indicate that additional hydrologic and/or biologic analysis should be conducted when CFII values exceed 5%. The Applicant's consultant conducted a fishery habitat assessment to evaluate the potential habitat at this location and potential impacts to fishery resources resulting from diversion of water. The fishery habitat assessment found that the Unnamed Stream, both upstream and downstream of the dam, did not appear to contain

suitable seasonal spawning and rearing habitat for salmonid species. However, it was determined that the lower reach may provide winter velocity refugia during high flow events in Turner Creek. The 8.5% CFII at the POD, approximately 0.6 miles upstream from the confluence with Turner Creek, would not interfere with the refugia in the Unnamed Stream if a FMF bypass is provided. Imposition of a bypass will also preclude potential impacts to other aquatic life and riparian habitat below the dam. To ensure that water is only diverted in accordance with permit conditions and to mitigate potential impacts and protect anadromous fish, foothill yellow-legged frogs, other aquatic life and associated habitat, the following permit terms, substantially as follows, will be included in any water right permit or license issued pursuant to Application 31360:

- *For the protection of fish and wildlife, under all bases of right, Permittee shall during the period January 1 through April 1 bypass a minimum of 0.62 cubic feet per second (cfs). Under all bases of right Permittee shall bypass the total streamflow from April 2 through December 31. The total streamflow shall be bypassed whenever it is less than 0.62 cfs.*
- *No water shall be diverted or used under this permit until Permittee has installed devices, satisfactory to the Chief of the Division of Water Rights, which are capable of measuring the bypass flows required by the conditions of this permit. Said measuring devices shall be properly maintained in operating condition as long as water is being diverted or used under this permit.*
- *Before storing water in the reservoir, Permittee shall install a staff gage in the reservoir, satisfactory to the Chief of the Division of Water Rights, for the purpose of determining water levels in the reservoir. This staff gage must be maintained in operating condition as long as water is being diverted, stored, or used under this permit.*

Permittee shall record the staff gage readings on the first day of each month. Permittee shall record the maximum and minimum water surface elevations and the dates that these water levels occur each water-year between October 1 and September 30. Permittee shall maintain a record of all staff gage readings and shall submit these records with annual progress reports, and whenever requested by the Division. The State Water Resources Control Board may require the release of water that cannot be verified as having been collected under a valid basis of right.

- *As long as water is being diverted, stored, or used under this permit, the outlet pipe riser invert in the reservoir shall be maintained at 95 feet in elevation, corresponding to 10 acre feet of dead storage.*
- *Permittee shall not divert water until the water surface is equal to or greater than 95 feet in elevation and the amount of water held in storage is equal to or greater than 10 acre-feet. Permittee may use well water to augment storage in the reservoir.*
- *Permittee shall monitor and record reservoir stage on a daily basis beginning October 1 each year until the onset of inflow to the reservoir. Permittee shall maintain a record of all staff gage readings and shall submit these records with annual progress reports, and whenever requested by the Division. For the purpose of compliance with this permit the onset of inflow to the reservoir is defined as the first increase in reservoir stage that occurs after October 1 each year.*

At the onset of inflow to the reservoir, Permittee shall open the outlet pipe valve to allow 0.62 cfs to drain from the pond by gravity. The outlet pipe shall remain open (allowing a minimum discharge of 0.62 cfs or natural inflow) until January 1 and until the reservoir is full. The outlet pipe shall be closed after January 1, when the reservoir is full, and any

natural inflow would spill to the downstream channel. For purpose of compliance with this permit the reservoir is full when the water surface elevation is equal to or greater than 100 feet.

- Permittee shall not withdraw water from the reservoir between October 1 and May 31 of the succeeding year.
- Prior to diversion or use of water under this permit, Permittee shall install an in-line flow meter on the outlet pipe, satisfactory to the Chief of the Division of Water Rights that measures the instantaneous rate and the cumulative amount of water discharged from the reservoir to the downstream channel. This in-line flow meter must be maintained in operating condition as long as water is being diverted or used under this permit. On a weekly basis, Permittee shall record the instantaneous rate and the cumulative amount of water discharged from the reservoir while the outlet pipe valve is open. Permittee shall maintain a record of all flow meter readings and shall submit these records with annual progress reports, and whenever requested by the Division
- Any non-compliance with the terms of the permit shall be reported by the Permittee to the Chief of the Division of Water Rights within 3 days of identification of the violation.
- The water appropriated shall be limited to the quantity that can be beneficially used and shall not exceed 19 acre-feet per annum to be collected from January 1 to April 1 of each year.
- The total capacity of the reservoir authorized by this permit shall not exceed 19 acre-feet.
- Prior to withdrawing water from the reservoir, Permittee shall install an in-line flow meter, satisfactory to the Chief of the Division of Water Rights that measures the instantaneous rate and the cumulative amount of water withdrawn from the Reservoir. This in-line flow meter must be maintained in operating condition as long as water is being diverted or used under this permit. Permittee shall maintain a record of the end-of-the-month meter readings and of the days of actual diversion, and shall submit these records with annual progress reports, and whenever requested by the Division.
- Permittee shall not stock and shall not allow others to stock fish or other non-native species in the reservoir.
- This permit does not authorize any act that results in the taking of a threatened, endangered or candidate species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050 - 2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531 - 1544). If a "take" will result from any act authorized under this water right, the permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit

Question b) The sparse near-channel vegetation would be characterized as "upland" species, and the botanical report describes the project area vegetation community fitting into the oak woodlands with intermixed grasslands (Brooks 2003). Implementation of the mitigation measures specified above should eliminate the potential for impacts from diversion on riparian habitat or other sensitive natural communities downstream of the project site. The reservoir

might provide localized, saturated conditions for a longer period of time that could be beneficial to the establishment of riparian vegetation. The proposed development of the 2-acre place of use should not result in impacts to sensitive natural communities since botanical and wildlife surveys conducted for the project did not identify any sensitive communities.

Question c) The botanical report did not identify any mesic meadow or riparian scrub habitat needed for potential marsh checkerbloom habitat (Brooks 2003). No wetlands were identified in the project area or near-vicinity. Consequently, no impact to wetland resources will occur as a result of this project.

Question e) In review of Mendocino's 2004 General Plan Land Use policies ([http://www.co.mendocino.ca.us/planning/GenPlan/LandUse/C01\(thru C08\).htm](http://www.co.mendocino.ca.us/planning/GenPlan/LandUse/C01(thru C08).htm)), no planning issues were found to conflict with this project. As no conflicts with existing local policies or ordinances protecting biological resources were uncovered, no associated impacts will occur as a result of this project.

Question f) The rural residential properties surrounding the town of Covelo are not contained within the confines or provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, no impacts will occur as a result of this project.

Incorporation of the above mitigation measures would reduce potential impacts to biological resources to a less than significant level.

AGRICULTURAL RESOURCES.

In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-c) The project site is zoned as Agriculture and the proposed project will not convert farmland to non-farm use. Therefore, no impact to agricultural resources will occur.

NOISE. Would the project result in:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-f) Any noise at the project site generated from ongoing operations or agricultural development (i.e., future development of changes to the irrigated place of use) will be similar to

noise conditions that currently exist. Additionally the project site is located in a remote low population area and no sensitive receptors are present in the vicinity of the project area. Approval of the project will not significantly increase ambient noise levels in the project vicinity above levels existing without the project. The project is not located within two miles of a public airport or in the vicinity of a private airstrip. The proposed project is not expected to cause any noise-related impacts.

LAND USE AND PLANNING. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-c) The proposed project is consistent with the existing land use designation. No habitat conservation plan or natural community conservation plan exist for the project area. The proposed project will not result any land use changes or impacts.

MINERAL RESOURCES. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-b) No mineral resources will be affected by the project.

HAZARDS and HAZARDOUS MATERIALS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-b) Petroleum products, agricultural chemicals, and every-day household chemicals are the only potentially hazardous materials that will be used on site. Storing and using these materials in accordance with manufacturer directions and applicable regulatory standards will avoid significant hazard to the public or the environment. No impacts are expected.

Questions c-h) The project is not located within ¼ mile of an existing or proposed school. The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (DTSC, 2006). The project is not located within an airport land use plan area or in the vicinity of a private airstrip. There are no emergency response plans or emergency evacuation plans that apply to the project area. The project is not expected to expose people or structures to an increased risk of fire. In fact, one of the purposes of use for diverted/stored water is fire protection. According to the Applicant, CDF has used the existing reservoir for fire fighting purposes in the past.

POPULATION AND HOUSING. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-c) No new homes or businesses are being proposed and no new infrastructure will be needed to serve the project. The project will not displace any housing or people. No impacts on population growth or housing needs will occur as a result of the proposed project.

TRANSPORTATION / CIRCULATION. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-g) There will be no change in the amount of traffic to the project site as a result of this project. Thus, no impacts on transportation/circulation will be associated with the proposed project.

PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-e) Approval of the project will result in continued use of the project site for agricultural and single family domestic purposes and will not generate a need for new or physically altered governmental facilities. Thus, no impacts on public services will be associated with the proposed project.

UTILITIES AND SERVICE SYSTEMS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-c and e-f) A public or private water purveyor does not serve the project site, nor is the project site served by an off-site wastewater treatment system. The Covelo Community Service District is mentioned in the Mendocino General Plan (2004) as having known sewage capacity to serve new customers. Therefore, the proposed project does not have the potential to adversely affect any wastewater treatment systems.

The project site drains to a natural stream channel and will not require modification of any existing stormwater facilities. The proposed project will not result in a need for additional or enhanced stormwater drainage facilities since the proposed diversion, storage, and use of water will actually result in a minor reduction in storm flows leaving the site. Approval of the project will not require expanded service from a public or private water purveyor. The pre- and post project solid waste generating capacity of the site will be similar. The project will not conflict with statutes and regulations related to solid waste.

Question d) Sufficient water supplies are available to serve the project (see the Hydrology and Water Quality section of this document and the attached WAA/CFII report). Based on the WAA prepared for the project, potential risks to downstream water users are minimal. Mitigation measures as described in proposed permit terms (see terms described in Biological Resources section above) will ensure that water is diverted and used in compliance with permit conditions and avoid potentially significant impacts related to downstream water supplies.

AESTHETICS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-d) The project site is compatible with the visual character of the surrounding area. The project is not within or visible from a state scenic highway. The project will not create a new source of substantial light or glare. The project will not have an adverse affect on aesthetics.

CULTURAL RESOURCES. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

A State Water Board, Division of Water Rights archeologist reviewed existing information and determined that both archival research and an archeological survey were necessary for fully evaluating potential impacts that may be caused by the project. William Cull (archeologist) requested a record search for the entire 1,660-acre Carley property in order to ascertain knowledge of prehistoric sensitivity. Staff at the Northwest Information Center, Sonoma State University completed archival research (NWIC File No. 05-1111) on June 9, 2006. Of the multiple previous surveys on the property, no archeological sites have been previously recorded in the vicinity of the locations of the reservoir or place of use. On August 19, 2006 William Cull conducted an archeological survey of the place of use and the perimeter of the existing reservoir site. Approximately five acres was subjected to an intensive pedestrian survey, during which time one prehistoric archeological site consisting of a sparse chert scatter of lithic debitage and fragmented groundstone was found and recorded. The survey did not reveal any paleontological sites (Cull 2006).

Under CEQA, historical resources are considered part of the environment (Public Resources Code, §§ 21060.5, 21084.1). A 'historical resource' includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resources Code, §§ 21084.1, 5020.1, subd. (j))."

In 1992, the Public Resources Code was amended as it affects historical resources. The amendments included creation of the California Register of Historic Resources (California Register) (Public Resources Code, § 5024.1). The State Historical Resources Commission administers the California Register and adopted implementing regulations effective January 1, 1998. Cal. Code Regs., tit. 14, § 4850 et seq.). The California Register includes historical resources that are listed automatically by virtue of their appearance on, or eligibility for, certain other lists of important resources. The California Register incorporates historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of the State Historical Resources Commission's evaluation in accordance with specific criteria and procedures.

CEQA requires consideration of potential impacts to resources that are listed or qualify for listing on the California Register as well as resources that are significant but may not qualify for listing. Under CEQA the preferred method of treatment for historical resources is to avoid the location and leave it in an undisturbed state. To protect the prehistoric site, William Cull and the Applicant visually demarcated and physically staked the area. Mr. Cull recommended that the archeological site be avoided during any grassland management activities and that no ground disturbance take place within the site boundaries. The Applicant agreed to inclusion of a permit term in any permit or license to protect the resource from any impacts.

To protect the archeological site, identified as the "Carley Grassland Site", a permit term, substantially as follows, will be included in any water right permit or license issued pursuant to Application 31360:

- *The prehistoric site identified as the Carley Grassland Site, by William Cull, in the report titled "Archaeological Surface Survey Report For The Carley State Water Control Board Application Number: 31360" shall be avoided during project development and operation. The site shall not be impacted by any of the features of the proposed project (e.g., water diversion, storage-reservoir, and distribution facilities, including installation of buried pipelines; and ripping, trenching, grading, or planting related to conversion and maintenance of the place of use-grassland management activities). An archeologist who has been approved by the California Historical Information System to work in the area, and who is acceptable to the staff of the Division of Water Rights, shall determine the boundaries of the site. The site shall be demarcated and avoided. Any future project-related activities or developments at the location of the above listed site may be allowed only if an archeologist who has been approved by the California Historical Information System to work in the area, and who is acceptable to the staff of the Division of Water Rights is retained to determine the significance of the site. If mitigation is determined to be necessary, then the archeologist shall design, conduct, and complete an appropriate mitigation plan that must be approved by the Chief of the Division of Water Rights prior to any activities related to any new developments. Permittee shall be responsible for all costs associated with the cultural resource related work.*

There is the possibility that subsurface archeological deposits could be present and accidental discovery could occur. The following permit term, substantially as follows, shall be included in water right permit or license issued pursuant to Application 31360:

- *Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Chief of the Division of Water Rights shall be notified of the discovery, and a professional archeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Chief of the Division of Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Chief of the Division of Water Rights.*

There is also the possibility that an unanticipated discovery of human remains could occur. The following permit term, substantially as follows, shall be included in any water right permit or license issued pursuant to Application 31360:

- *If human remains are encountered, then the Permittee shall comply with section 15064.5 (e) (1) of the CEQA Guidelines and the Health and Safety Code section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the Native American Heritage Commission within 24 hours. The Native American Heritage Commission will identify the person or persons believed to be the most likely descendants from the deceased Native American. The most likely descendent may make recommendations regarding the means of treating or disposing of the remains with appropriate dignity. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed under section 15064.5 (e) has been completed and evidence of completion has been submitted to the Chief of the Division of Water Rights.*

The proposed project could result in potentially significant impacts to cultural resources. However, it was determined that incorporation of the identified permit terms, would reduce any potential impacts to a less than significant level.

RECREATION. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Questions a-b) The project will not cause any changes in the use of recreational facilities. No impacts on recreation facilities will occur as a result of the proposed project.

MANDATORY FINDINGS OF SIGNIFICANCE.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

As discussed above, the project has the potential to degrade the environment by adversely impacting hydrology and water quality, biology, and cultural resources. Implementation of the mitigation measures expressed as proposed permit terms will reduce potential impacts to less than significant levels. The potential for cumulative flow related impacts was evaluated in the Section 3 (Hydrology and Water Quality), Section 4 (Biological Resources), and in the attached WAA/CFII report. The potential for cumulative flow related impacts is less than significant or less than significant with mitigation incorporated. No other potential cumulative impacts are identified in this Initial Study. The project does not have the potential to cause substantial adverse effects on human beings.

DETERMINATION

On the basis of this initial evaluation

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

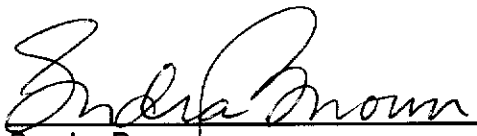
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐


I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

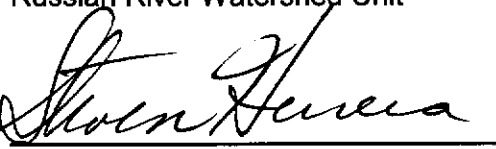
Prepared By:

Natural Resources Management Corporation: Sandra Brown & Dennis Halligan


Sandra Brown | 10/24/08
NRM Watershed Resources | Date

Reviewed By:


Eric Oppenheimer, Chief | 10/27/08
Russian River Watershed Unit | Date


Steven Herrera, Chief | 10/27/08
Water Right Permitting Section | Date

Authority: Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.1 through 21083.3, 21083.6 through 21083.9, 21084.1, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. App. 3d 1337 (1990).

INFORMATION SOURCES:

- Brooks, M. 2003. Botanical assessment report for the Carley Ranch pond project, Round Valley, California. Prepared for the State Water Resources Control Board, Division of Water Rights. Sacramento, CA.
- Brown, S. 2004. Water availability/CFII Report for water rights Application 31360 – Carley Ranch, Round Valley, California. Prepared for the State Water Resources Control Board, Division of Water Rights. Sacramento, CA.
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- Jones, W. 2001. Letter to Linda Hanson, DFG regarding an onsite fisheries investigation of the Carley project area. DFG, Yountville, CA.

WATER AVAILABILITY / CFII REPORT

for

WATER APPLICATION 31360

Carley Ranch, Round Valley, California

Prepared for:

State Water Resources Control Board (SWRCB)

Division of Water Rights

1001 I Street, 14th Floor

Sacramento, CA 95814

Prepared by:

Sandra Brown

Natural Resources Management Corporation

1434 Third Street

Eureka, CA 95501

November 8, 2004

Carley Ranch WAA/CFII REPORT

TO: Steven Herrera, Chief Permitting Section, Division of Water Rights, SWRCB
FROM: Natural Resources Management Corporation
DATE: November 8, 2004
SUBJECT: Water Availability Analysis (WAA) for Application 31360
Prepared by Sandra Brown, Hydrologist, Natural Resources Management Corporation

1.0 INTRODUCTION

The purpose of this report is to summarize the results of the Water Availability Analysis conducted for the subject application located on a small unnamed tributary to Turner Creek (Mendocino County), thence Mill Creek, thence the Middle Fork Eel River, thence the Eel River, thence the Pacific Ocean. The objectives of the analysis are as follows:

- To determine whether water is available for appropriation in accordance with California Water Code section 1275 (a); and
- To determine the impact of the application/project on streamflow in order to evaluate the impacts to fishery resources as required by the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA), and the federal Endangered Species Act (ESA).

For this analysis, the following parameters are to be computed:

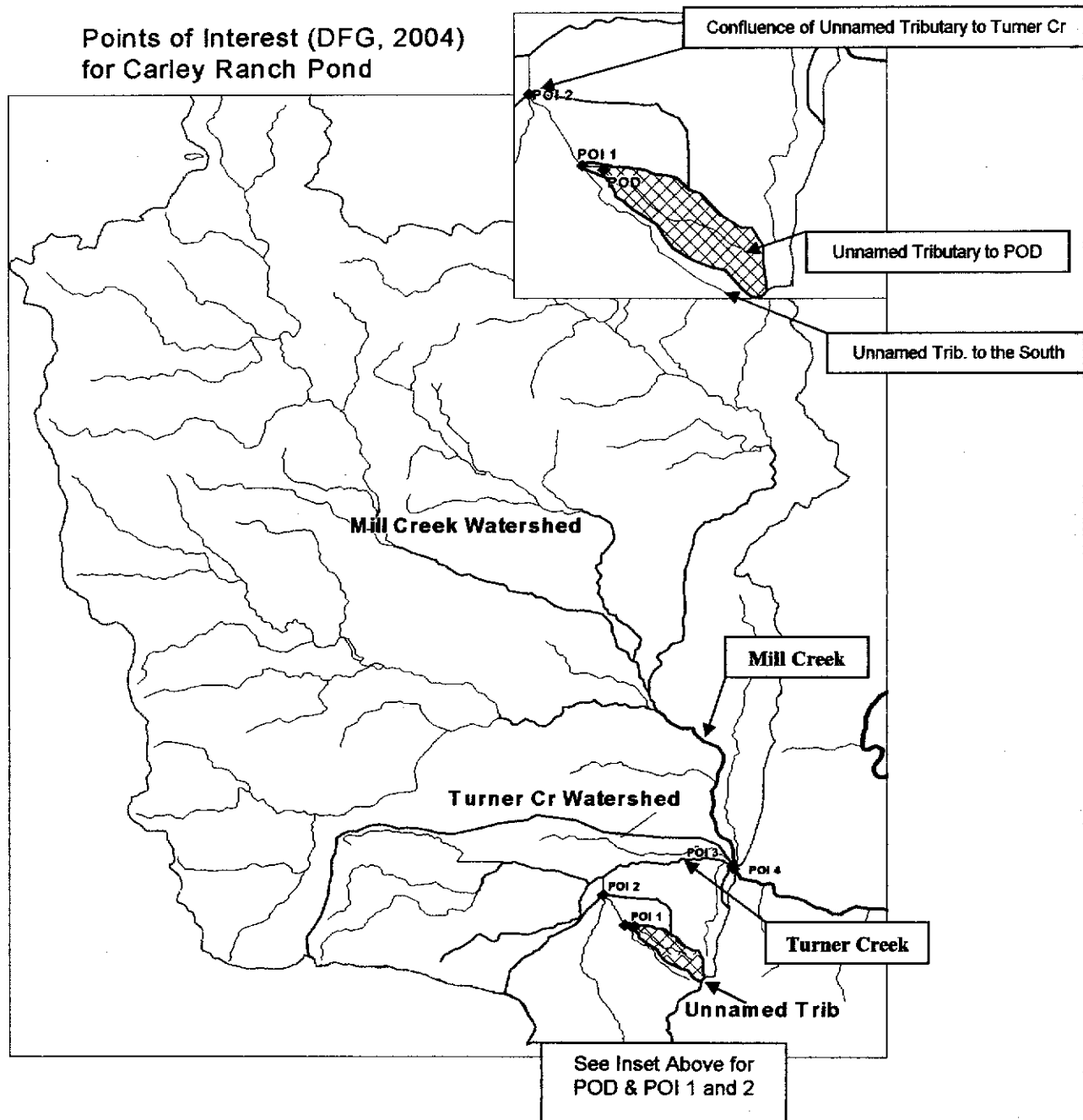
1. Unimpaired seasonal daily flow in cubic feet per second (cfs) at the Point of Diversion (POD) of A31360 based on the long term average water year data for the season December 15th – March 31.
2. Unimpaired February median daily flow at POD of A31360 in cfs.
3. Net amount of water available in acre-feet (af) for A31360 for the December 15th – March 31st season after demand for upstream water rights and any minimum bypass flow requirements are met, based on the long term average water year (October 1st – September 30th).
4. Cumulative Flow Impairment Index (CFII) at the Points of Interest (POI) designated by the California Department of Fish and Game (DFG).

The POIs designated by DFG (July 26, 2004) are as follows:

POI #1	The point immediately above the confluence of the unnamed stream containing the POD and the unnamed stream to the south
POI #2	The point immediately below the confluence of the unnamed stream and Turner Creek
POI #3	The point immediately above the confluence of Turner Creek and Mill Creek
POI #4	The point immediately below the confluence of Turner Creek and Mill Creek

Figure 1 shows the general area for the application within the unnamed stream, Turner Creek and Mill Creek watersheds, and assigned points of interest. The town of Covelo lies in the Mill Creek watershed. Additional figures are attached at the end of the report.

Figure 1. General Location Map



2.0 PROJECT DESCRIPTION

The project is located in Mendocino County about two miles southeast from the town of Covelo. The application seeks to store 19 acre-feet (af) of water into an existing on-stream reservoir during the rainy season from December 15th through March 31st (in consideration of fisheries issues). Application 31360 requests storage for the purposes of irrigating three to ten acres of alfalfa, enhancing wildlife habitat, and fire protection. A dam is currently located on the property that has the capacity to store 19 af and is characterized as an on-channel "fill and spill" type of impoundment, with a culvert pipe outlet, a separate culvert overflow. DFG has protested this water rights application. Pending approval of this water rights application, the applicant has agreed to store a maximum of 10 acre-feet, as their Small Domestic Use (SDU) certificate 000603R allows. The SDU certificate will be cancelled upon the issuance of water rights permit of application 31360.

3.0 WATER AVAILABILITY ANALYSIS METHODOLOGY

Annual unimpaired flow is the total volume of water, on average, that would flow past a particular point of interest on an annual basis if no diversions (impairments) were taking place in the watershed above that point. Different methods may be used to estimate the unimpaired flow, including flow data from a relatively unimpaired streamflow gage (drainage area-ratio method) or a rainfall-runoff relationship. The Drainage Area-Ratio Method was used in this analysis.

USGS gaging station 11472900 on Black Butte River was used as the reference gage for the streamflow data (drainage area contributing to the gage is 162 square miles). Black Butte River enters the Middle Fork of the Eel River approximately six miles upstream of the Mill Creek/Middle Fork Eel River confluence. This gage contains continuous stream discharge data from water years 1959 to 1975 (17 years of record). This gage may be considered unimpaired because there is insignificant amount of diversion within the contributing drainage area to the gage.

For this analysis, all precipitation values used were area weighted and determined by Mohammed Khan, State Water Resources Control Board, Division of Water Rights.

A Geographic Information System (GIS) utilizing MapInfo was used for all the drainage area determinations where needed, along with the development of maps.

4.0 COMPUTATION OF WATER AVAILABILITY PARAMETERS AT POD

- 1) Unimpaired seasonal daily flow in cubic feet per second (cfs) at the Point of Diversion (POD) of A31360 based on the long term average water year data for the season December 15th – March 31st.

Drainage Area Ratio Method:

Streamflow for the POD was determined based on the drainage area ratio formula:

$$Q_2 = Q_1 \times (A_2/A_1) \times (I_2/I_1) = \text{Average Daily Flow (cfs)}$$

Where: Q_2 = Daily flow (cfs) at POD for A31360;

Q_1 =	Daily flow (cfs) at Black Butte gage	= 333 cfs
A_2 =	Watershed area above POD	= 0.27 square miles
A_1 =	Watershed area above Black Butte gage	= 162 square miles
I_2 =	Precipitation for watershed above POD	= 45 inches
I_1 =	Precipitation for area above Black Butte gage	= 55 inches

$$\text{Average annual daily flow } Q_2 \text{ at POD} = (333) * (0.27 / 162) * (45 / 55) = \mathbf{0.45 \text{ cfs}}$$

The Drainage Area Ratio formula is used to compute the daily flow, in acre feet (af), at the POD for the diversion season of December 15th – March 31st:

Mean Monthly Runoff (af) at POD = (Mean Monthly Flow (cfs) at Reference Gage) * (drainage area ratio) * (Rainfall Proration between drainages) * (Conversion of cfs to acre-feet)

A discharge of 1 cubic foot per second (cfs) equals 1.98 acre-feet of runoff

Table 1. Unimpaired monthly runoff in acre-feet at POD

Month	Mean Monthly Flow (cfs) at Black Butte River Reference Gage	Unimpaired Mean Monthly Runoff at POD (Acre-Feet)	% of POD Annual Total Runoff
Oct	25.39	1.84	1%
Nov	172.61	14.26	4%
Dec	629.74	52.79	16%
Jan	966.77	81.02	25%
Feb	717.14	54.33	17%
Mar	611.57	50.95	16%
April	500.96	40.39	12%
May	282.46	23.94	7%
June	74.66	5.94	2%
July	19.51	1.84	1%
Aug	7.04	0.61	0%
Sept	4.96	0.59	0%
Annual Total Runoff at POD (acre- feet)		328.50	
Dec. 15th - Mar. 31st Seasonal Unimpaired Runoff (using straight ratio of 17 days for Dec. runoff = 28.93 af)		215.23	

From Table 1, the unimpaired runoff at the POD for the diversion season runoff (cfs) based on the long term average water year, is 215.2 af, or 1.01 cfs (215 af / 1.98 af/cfs / 107 days in season = 1.01 cfs)

2) Unimpaired February median daily flow at POD of A31360 in cfs.

The drainage area ratio method is used to compute the February median flow with Q_1 being the February *median* daily flow for the 17 years of data at the Black Butte River reference gage, which is 456.5 cfs. The February median flow is calculated as a value for the minimum bypass flow in the absence of site specific information for bypass.

February median flow at POD (Q_2) = $(456.5) * (0.27 / 162) * (45 / 55) = 0.62$ cfs; or
131.4 af (0.62 cfs * 1.98 af/cfs * 107 days in diversion season = 131.4 af)

3) Net amount of water available in acre-feet (af) at A31360 POD for the Dec. 15th – Mar. 31st season is equal to: Available Seasonal Flow - Upstream Water Rights Demand - Bypass

Available Seasonal Flow = 215.2 af (from Table 1);
Upstream water demand = 0 (A31360 is the only application in the drainage);
Bypass flow = 131.4 af (see above)

Net water available = $(215.2 \text{ af}) - 0 \text{ af demand} - 131.4 \text{ af bypass} = 83.6 \text{ af}$

Therefore, based on a long term water year data, there is sufficient water available in an average water year for this application of 19 af.

5.0 CUMULATIVE FLOW IMPAIRMENT INDEX (CFII) AT THE POINTS OF INTEREST (POI) DESIGNATED BY DFG.

Pursuant to the CEQA, CESA and ESA, the Division is required to evaluate the cumulative impacts to the natural hydrology. The Cumulative Flow Impairment Index (CFII) is an index that is used to evaluate the cumulative flow impairment demand of all existing and pending projects in a watershed of interest. The CFII is a percentage obtained by dividing the **Demand** in acre-feet by the **Supply** in acre-feet at a specified point of interest (POI), and for a specified time period, where:

Demand is the "face" value entitlements of all existing and pending water rights, under all bases of right, from October 1 through March 31, above the POI in acre-feet, using the Division's Water Rights Information Management System (WRIMS) database and water right files; and

Supply is the seasonal average unimpaired flow above the POI in acre-feet. For the "coastal" watersheds in the counties of Mendocino, Sonoma, Marin and Napa the season of **December 15 through March 31** is used to compute supply¹.

a) Location of POIs

The location descriptions for the four DFG designated POIs are summarized on page 1. Figures 2 and 3 on the following pages show the delineation of the watershed boundaries for the each of the four POIs; their area in square miles was computed by GIS. Table 2 summarizes the drainage areas, annual rainfall, and water rights demand (see Table 3 below) for each POI.

Table 2. POI Drainage Areas, Annual Rainfall, and Water Rights Demand

Point of Interest (POI)	Drainage Area (square miles)	Annual Rainfall (inches)	Water Rights Demand (acre-feet)
POI 1	0.28	45	19
POI 2	4.15	47	19
POI 3	12.50	49	19
POI 4	94.00	54	264.22

¹ National Marine Fisheries Service and The California Department of Fish and Game, *Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams*, June 17, 2002.

Figure 2. Locations and Drainage Areas for POIs 1 and 2.

Points of Interest (POI) #1 and #2

Drainage Areas (sq mi) POI #1 = 0.28, POI #2 = 4.15

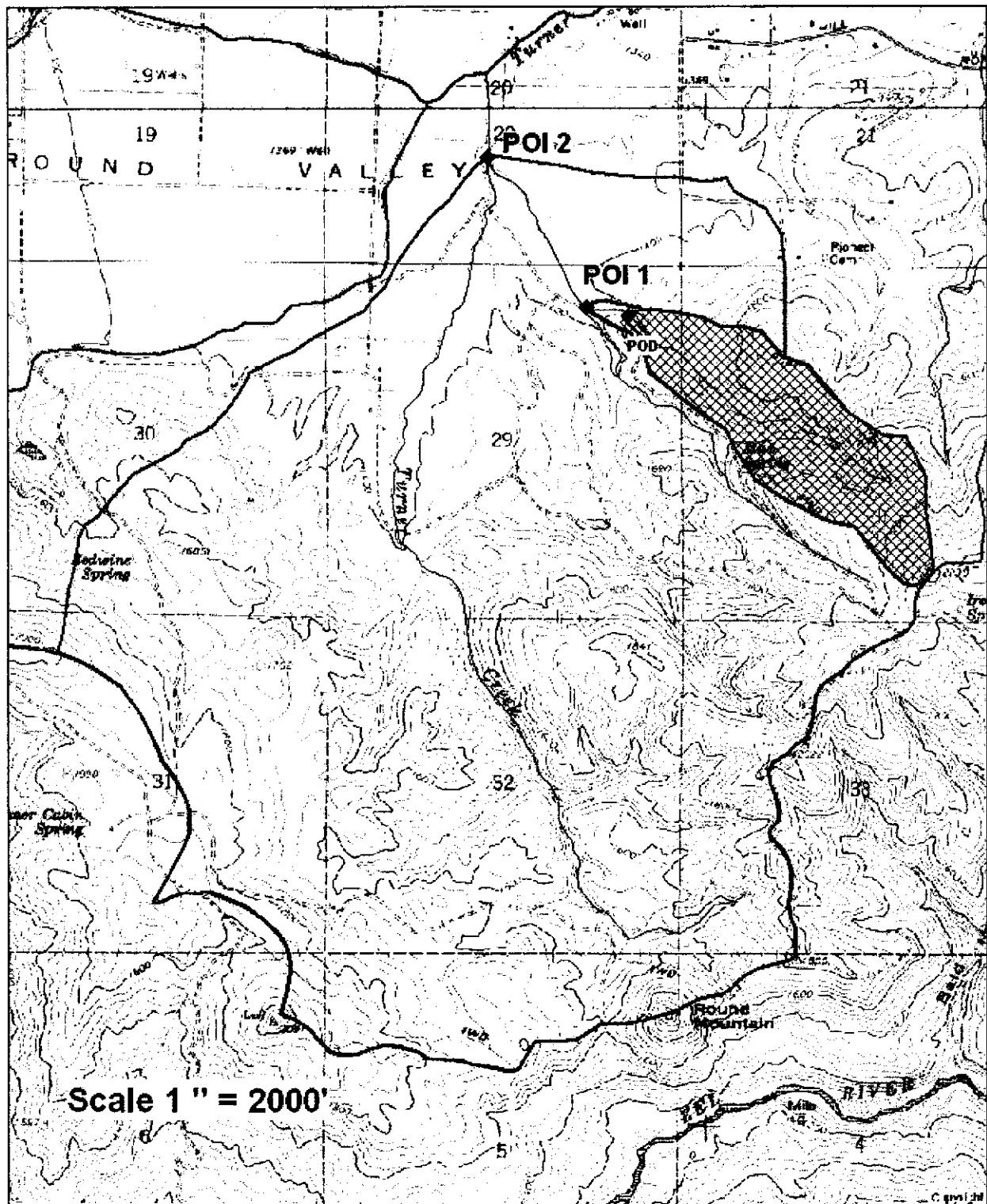
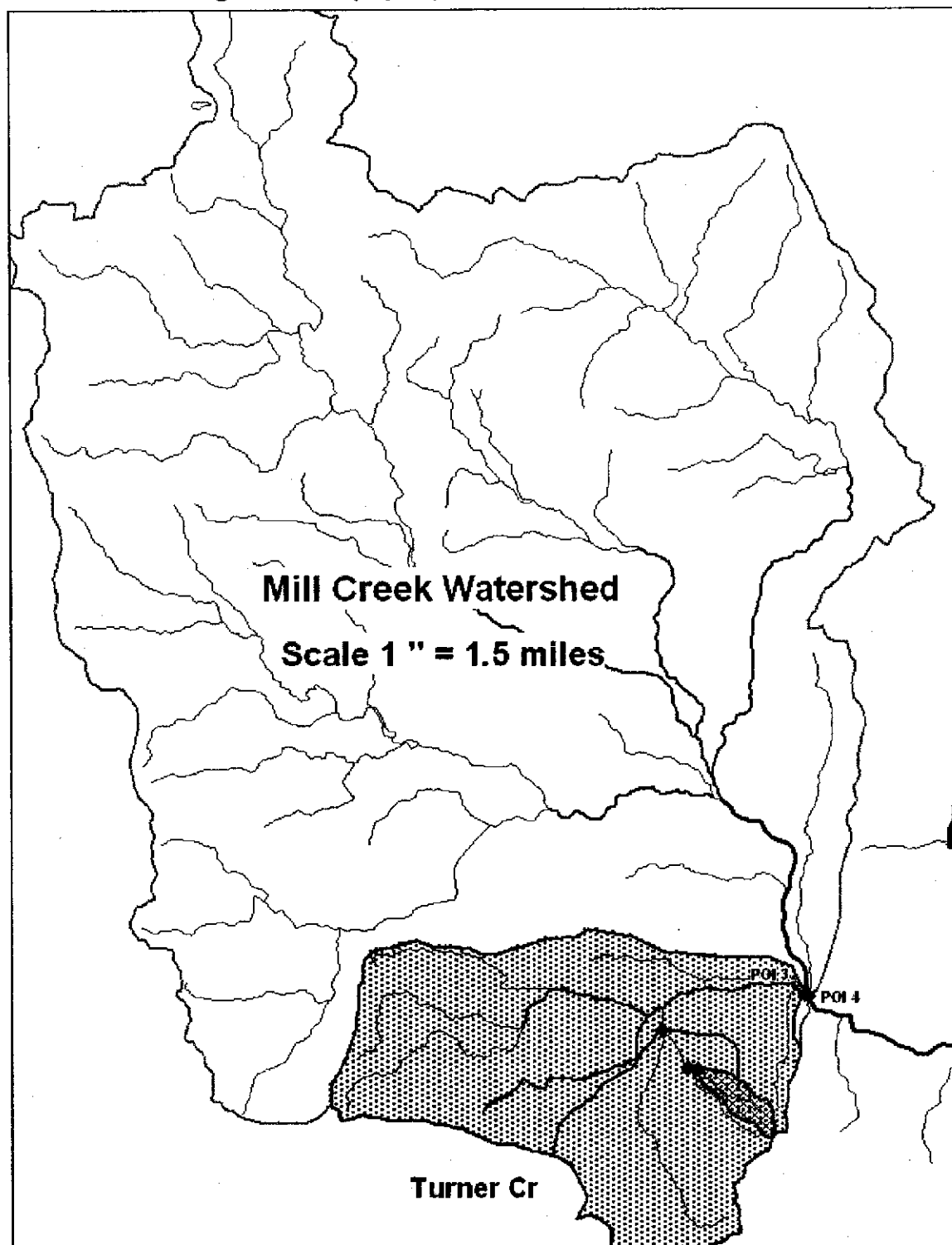


Figure 3. Locations and Drainage Areas for POIs 3 and 4.

Points of Interest (POI) #3 and #4

Drainage Areas (sq mi) POI #3 = 12.5, POI #4 = 94.0



b) Computation of Demand

The WRIMS (Division of Water Rights Information Management System) showed no Water Rights applications or entitlements located in the Turner Creek watershed; this 19 af application (A31360) would be the first. As a result, the demand at POIs 1, 2, and 3 is equal to 19 af.

POI 4 which captures Mill Creek is the only point of interest that contains other water rights holders. Table 3 shows the demand from the WRIMS database for POI 4 which equals a total of 264.22 acre-feet for both storage and direct diversion within the diversion season.

Table 3. Water Rights Demand at POI 4 (Turner and Mill Creek watersheds)

Application ID	Application File Date	Oct 1 – March 31 Maximum Storage (af)	Oct 1 – March 31 Direct Diversion (af)
C001356	12/14/1977	1.5	-
C001357	12/14/1977	0.7	-
C001358	12/14/1977	0.7	-
C001359	12/14/1977	0.1	-
C001360	12/14/1977	0.1	-
C001361	12/14/1977	0.2	-
D31083 R	7/25/2000	1.0	-
A14814	5/20/1952	-	9.0
A17586	5/07/1957	-	0
A18136	5/12/1958	30	0
A21008	11/07/1962	200	-
A23143	10/02/1968	1.7	0.22
A31360	9/23/2002	19	-
Total		255.0	9.22
Grand Total	264.22 af		

c) Computation of Supply

The Drainage Area Ratio formula was used to compute the supply in acre feet at the each POI for the diversion season of December 15th – March 31st. The drainage areas and rainfall amounts for each POI are shown above in Table 2. The Black Butte reference gage has a drainage area of 162 square miles and 55 inches of annual rainfall. Table 4 summarizes the supply (af) for each POI.

Table 4. Computation of Supply (af) for POIs for Dec. 15th – Mar. 31st diversion season

Month	Ref. Gage Mean Monthly Flow (cfs)	POI 1 Ac-Ft	POI 2 Ac-Ft	POI 3 Ac-Ft	POI 4 Ac-Ft
Dec.15-31	345.34	29.94	463.84	1,456.11	12,067.34
January	966.77	84.09	1,298.80	4,079.31	33,805.65
February	717.14	55.99	870.41	2,733.19	22,650.01
March	611.57	52.79	821.88	2,580.42	21,385.41
Supply		222.81	3,454.93	10,849.03	89,908.41

d) Computation of CFII at POI 1, 2, 3, and 4

The CFII is a percentage obtained by dividing the **Demand** in acre-feet by the **Supply** in acre-feet at a specified point of interest (POI). These computations are summarized below in Table 5.

CFII for POIs: Demand (af) / Supply (af): POI 1 = 19 / 222.81 = 8.5 %

POI 2 = 19 / 3,454.93 = 0.5 %

POI 3 = 19 / 10,849.03 = 0.2 %

POI 4 = 264.22 / 89,908.40 = 0.3 %

Table 5. Computation of CFII for POIs 1, 2, 3 and 4

Point of Interest	Drainage Area (square miles)	Annual Rainfall (inches)	Water Rights Demand (acre-feet)	Supply (acre-feet)	CFII (Demand af / Supply af)
POI 1	0.28	45	19	222.81	8.5 %
POI 2	4.15	47	19	3,454.93	0.5 %
POI 3	12.50	49	19	10,849.03	0.2 %
POI 4	94.00	54	264.22	89,908.40	0.3 %

CFII at POD:

The CFII index at the POD for A31360: 19 af Demand / 215.2 af Supply = 8.8 %

According to Addendum A of the Guidelines, a CFII of less than 5 percent has little chance of having significant cumulative impacts due to the diversion; greater than 5 percent and less than 10 percent raises a flag for cumulative impacts relating to fisheries concerns and may require additional hydrologic study.

Here, POI 1 has a CFII of greater than 5 percent and less than 10 percent. Therefore, the stream reach between the point of diversion and the next tributary confluence is a reach of possible fisheries concern. However, as this reach provides habitat for high water refugia at best (Fisheries Report by Dennis Halligan, available in file), and no other suitable salmonid habitat (spawning, rearing, or cover), the potential for significant cumulative impacts is small.

By POI 2, the confluence with Turner Creek, the CFII has diminished to 0.5 percent, indicating that the diversion impoundment would have very little potential for cumulative impacts to the fisheries at that point and below, indicated by the drop of the CFII to 0.2 percent at POI 3.

POI 4, which includes Mill Creek and has other water rights holders, has a CFII of 0.3 percent, still well below any threshold of concern.